

## ABSTRACT

There are provided a spin transistor having a spin injector injecting, as hot carriers, carriers having a spin parallel to the spin band constituting the band edge of a first ferromagnetic barrier layer from a first nonmagnetic electrode into a second nonmagnetic electrode layer and a spin analyzer conducting, by the spin split at the band edge of a second ferromagnetic barrier layer, the hot carriers to a third nonmagnetic electrode when the direction of the spin of the spin-polarized hot carriers injected into the second nonmagnetic electrode is parallel to the direction of the spin of the spin band at the band edge of the second ferromagnetic barrier layer and not conducting the hot carriers to the third nonmagnetic electrode when they are anti-parallel, and a storage device using the spin transistor.